LLANDAFF & DINAS POWIS

RURAL DISTRICT COUNCIL.

ANNUAL REPORT

For the Year 1903,

— BY —

RICHARD PRICHARD, M.D.,

Medical Officer of Health.

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TO THE

CHAIRMAN AND MEMBERS

OF THE

Llandaff and Dinas Powis Rural District Council.

GENTLEMEN,

I beg to lay before you my Annual Report for the year 1903. It is drawn up in accordance with the instructions issued by the Local Government Board to provincial Medical Officers. These specify that the report should be concerned chiefly with the conditions affecting health in the district, and with the means for improving those conditions. It should, as far as possible, be a brief review of the work done during the year, indicating what local circumstances have tended to improve or to deteriorate the sanitary condition of the district. It is requested that care should be taken to report fully and explicitly on the influences affecting, or tending to affect, injuriously the public health of the district; what action has been taken, or which may still be needed, with a view to combat those influences. It is pointed out that as the Report is for the information of the Local Government Board and of the Glamorgan County Council as well as of your Council, a statement of local circumstances and history of local sanitary questions that may seem superfluous to you may often be needed by the former bodies. Under these circumstances I shall have to repeat here certain matter that is already familiar to you.

The Medical Officer of Health is also required to report on the administration of the Factory and Workshop Act, 1901, in so far as it is in the hands of the District Council and is concerned with matters in his department.

Finally, the Report should deal with the extent, distribution, and causes of disease, especially of epidemic and notifiable diseases, within the district; and should give an account of any

noteworthy outbreaks of such diseases during the year under review, stating the result of his investigations into their origin and propagation, and the steps taken by him, or on his advice, with a view to check their spread.

These points are dealt with in my Report.

Inasmuch as your District is composed of 34 parishes which do not lend themselves readily to be grouped according to topographical, physical, or other features, the preparation of these tables entails a good deal more work as compared with what it would be if one adopted, say, the three sub-registration divisions. The temporary and permanent value of the report as a record, as well as its interest to the Councillors, would be much diminished if a number of the smaller parishes were merged into one group and thus lose their identity. It is in these that the sanitary arrangements are the more primitive, and, therefore, more likely to be neglected.

For the information of the Council I have drawn up the tables so as to give details of the vital statistics in the individual parishes. The members will thereby be able to see what diseases are most prevalent in those parishes which they represent as well as in the district as a whole.

AREA.

The area of the District as at present composed, exclusive of area covered by water, is 65,469 acres, or nearly 102⅓ square miles

POPULATION.

TABLE I.—CENSUS POPULATION.

Year.	Population.	Inhabited Houses.	Persons per House.
1891	18,539	3,691	5·02
1901	23,047	4,758	4·84
	4,508 increase	1,067 increase	.18 decrease

The estimated population in the middle of 1903 was 24,205.

This figure is calculated on the assumption that the population of the district has been increasing since the last census by the same natural geometrical progression as was the rate in the preceding decennium. But there is strong presumptive evidence that the increase is becoming more rapid.

Over 170 plans for new houses were passed by your Buildings Committee last year; 177 certificates of the provision of an available supply of wholesome water to new dwelling houses were granted, less nine houses closed as unfit for occupation, gives a net total of 168, which, at the census rate of 4·84 per house is equal to an additional population to the district of 814 in the year, instead of 585 by the method which I have adopted.

There are very few vacant houses in any part of your district. Hence there is little doubt that the estimated population is below the actual. I re-introduce the following Table (II) as it gives the area and population of each parish, as well as the number of persons per acre at the last census :—

TABLE II.

Parishes.	Area.	Population 1881.	Population 1891.	Population 1901.	Population per acre.
Bonvilstone	1280	225	219	188	·14
Caerau	772	112	187	229	·29
Lavernock	649	81	78	118	·18
Leckwith	875	145	122	135	·15
Lisvane	1416	228	248	256	·18
Llancarvan	4725	564	548	433	·09
Llandaff	2746	3185	4379	5777	2·1
Llanedarne	2755	285	290	291	·10
Llanillterne	1075	118	97	110	·10
Llanishen	3052	469	691	1212	·39
Llantrithyd	1433	159	155	115	·08
Llanvedw	2453	304	275	260	·10
Llanvythin	427	37	29	22	·05
Michaelstone-le-Pit ...	800	108	102	87	·10
Michaelstone-super-Ely ...	492	43	52	65	·13
Pendoylan	3579	393	352	343	·09
Penmark	3360	480	503	490	·14
Pentyrch	3939	2102	1693	1955	·50

TABLE II.—*Continued.*

PARISHES.	Area.	Population 1881.	Population 1891.	Population 1901.	Population per acre.
Peterstone-super-Ely ...	2171	233	285	327	·14
Porthkerry	967	129	145	127	·11
Radyr	1630	519	610	816	·50
Rhydygwern	722	248	275	262	·36
Rudry	2668	387	409	571	·21
St. Andrews	3186	576	1149	1622	·50
St. Brides-super-Ely ...	601	78	94	107	·17
St. Fagans	2362	483	490	507	·21
St. Georges	1024	230	261	280	·27
St. Lythans	1284	81	114	85	·06
St. Nicholas	2172	349	318	332	·15
Sully	1021	199	152	175	·17
Van	861	251	247	222	·25
Welsh St. Donatts	2263	215	188	174	·07
Wenvoe	3440	421	460	489	·14
Whitchurch	3269	2752	3322	4865	1·48
	65469	16189	18539	23047	

It will be seen that Llandaff has an average of about two individuals per acre; Whitchurch has three persons every two acres; Pentyrch, Radyr, and St. Andrews have each one person for every two acres. The other parishes are still more sparsely populated.

BIRTHS.

Seven hundred and one births were registered in the whole District during the year 1903, which, with the exception of the immediately preceding year, is the highest on record. (That for 1902 was 729.) It is equal to 28·96 per 1,000 of the estimated population, and 30·4 of the census population. The average birth rate for the previous ten years was 29·46; that for England and Wales during the year 1903 was 28·4 per 1,000 living, and for the rural districts of England and Wales 27·3. According to sexes the births were 367 males and 334 females.

The number of births in each parish and the corrected rates for the preceding ten years may be seen by reference to Table VIII., which is appended to this report.

DEATHS.

Two hundred and ninety-two deaths were registered during the year 1903, viz., 160 males and 132 females, and they are equal to a mortality of 12·02 per 1,000 of the estimated, and 12·6 of the census population. The average death rate for the previous ten years was 13·60; that for all England and Wales last year was 15·4, and for the rural districts of England and Wales 14·8 per 1,000 living.

The natural increase in the population of the District during the year by excess of births over deaths was 409, viz., 207 males and 202 females.

The male births exceeded the females by 33, and the male deaths were 28 in excess of the females.

One death was certified by a letter from the Coroner. Thirty-three inquests were held. Three of these were on the bodies of non-residents. Four persons belonging to your District died in public institutions outside. These corrections have been made in arriving at the total deaths.

The average age at death was 35 years, which is somewhat below the three immediately preceding years, and is accounted for by a number of aged persons surviving the comparatively mild spring and winter who would otherwise have succumbed.

The number of deaths at the various ages in the several parishes from the different diseases may be seen by referring to the appended Table X.

Infant Mortality.—The deaths of infants under one year old numbered 69, viz , 39 males and 30 females, which is equal to 2·8 per 1,000 of the population, and amounts to 23·4 per cent. of the total deaths.

The infant death rate, however, should be stated as so many deaths per 1,000 children born and registered during the year. Calculated on this basis the deaths of infants were at the rate of 98 per 1,000 births, as compared with an average of 113 for the previous ten years. This is an exceptionally low figure which would have been still lower but for the epidemic of whooping cough in the parishes of Llandaff and Whitchurch.

The infant death-rate during 1903 was 132 and 118 per 1,000 respectively for the whole and for the rural districts of England and Wales.

The births in the district were in the proportion of 10·16 for every infant death

The principal causes of infant deaths are to be seen in Table X., and were as follow:—Measles, 1; Scarlet Fever, 1; Diphtheria, 1; Whooping Cough, 8; Diarrhœa, 2; Enteritis, 1; Diseases of the Respiratory Organs, 12; Premature Births, 20; Accident, 1; Tubercular Disease, 1; all other causes, 21.

Old Age.—Seventy-six deaths were those of persons aged 65 years and upwards, the numbers in the five preceding years being 74, 99, 92, 82, and 95 respectively.

The mortality of aged persons was as follows:—41 persons (22 males and 19 females) were between 60 and 70 years old; 37 persons (18 males and 19 females) were between 70 and 80 years; 21 persons (13 males and 8 females) were over 80 and under 90 years old, while a farmer at Eastbrook, St. Andrews, was 97 years old at death.

TABLE III.—VITAL STATISTICS OF WHOLE DISTRICT DURING 1903 AND PREVIOUS YEARS.

Year.	Population estimated to middle of each year.	Births.		Total Deaths Registered in the District.			
				Under 1 Year of Age		At all Ages.	
		Number.	Rate.*	Number	Rate per 1,000 Births registered	Number.	Rate.*
1893	19718	608	30·82	68	112	294	15·50
1894	19970	605	30·29	77	127	307	15·37
1895	20422	605	29·62	76	125	325	15·91
1896	20874	598	28·64	76	127	289	13·84
1897	21326	606	28·41	63	103	270	12·70
1898	21778	694	31·86	70	100	281	12·90
1899	22230	626	28·16	80	127	297	13·36
1900	22682	639	28·17	78	118	334	14·76
1901	23170	643	27·75	58	90	296	12·77
1902	23620	729	30·86	77	105	329	13·92
Averages for years 1893-1902.	21579	635	29 46	72	113	302	13 60
1903	24205	701	28·96	69	98	292	12·02

* Rates calculated per 1,000 of estimated population.

Cancer, or malignant disease of the various organs, caused 12 deaths, as compared with 14, 13, and 16 deaths in the preceding three years. These figures are nearly double the corresponding numbers of ten years ago. Five were males and seven females. The cancer death rate is equal to 495 per million of the population. These deaths were, as usual, of individuals who had reached maturity, viz., 8 of persons between 25 and 65 years, and 4 above 65 years old. Recent research seems to indicate that cancer like enteric fever, is more prevalent on heavy clay soils than high dry or porous soils; so much so that in certain districts "cancer houses" or group of houses are said to exist.

Tubercular Diseases.—Fourteen deaths were certified as due to Phthisis and eight to other tubercular disease; the death rate from Phthisis (pulmonary tuberculosis) amounts to ·57, and that from all tubercular diseases to ·90 per thousand living.

The numbers of all tubercular diseases for the previous ten years were as follow:—

1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
36	26	32	24	18	20	18	27	38	19
2·33	1·30	1·63	1·21	·89	·98	·97	1·30	1·63	·82

The average number is 25·8, and average rate is 1·39 for the 10 years. There is a slight improvement in all the tubercular diseases, and a very decided one in the case of Phthisis when taking into consideration the increase in the population. No doubt, if there was to be a spell of severe frosty weather several consumptives who are now holding their own or improving slowly would be cut off through the supervention of acute pulmonary troubles. Hence the marked variation in different years. There was one death of a young infant last year from Tabes mesenterica, which is supposed to be due to drinking tuberculous milk. There was not one for five years before that.

The County Medical Officer presented a report last year to the Glamorgan Council in which he dealt with the necessity of providing Sanatoria for the treatment of consumption and their probable cost. The question is still under consideration. District Councils are also empowered to provide Sanatoria themselves, or they may combine with other districts, as in the case of infectious hospitals. The prospects of recovery in the early stages of the disease are very great. The contagious character of the malady is now recognised

by everyone. Hence hospitals are required both in respect of treatment and of prevention. Of the contagious nature of the disease there is abundant proof. In my last annual report I suggested, in view of the few voluntary notifications received, that the Registrars should report at once to me every death registered from tubercular disease. The suggestion was adopted. During the past year your Inspectors have disinfected the rooms occupied by deceased persons as soon as the funeral was over. One then usually learned some history such as these :—(1) A girl, 13 years old, had been ill from two to three years. A brother, aged 14 years, died about 12 years ago. A sister, aged 29 years, died five years ago from the same complaint. "It is a family disease on mother's side." (2) A father, 32 years old, living at Ely, had ailed over two years. His sister died at Fairwater a few years ago. "The disease is in the family." (3) A mother, 30 years of age, living at Whitchurch, was ill just over six months. Her mother and three sisters succumbed to phthisis, the latter dying when from 25 to 30 years of age. These examples could be multiplied. They are not instances of heredity as it was supposed, but of the infection having been contracted from a previous case as in scarlet fever or small-pox. The difference is only one of time. In the latter the symptoms manifest themselves in from one day to a week or two ; in tubercular disease (phthisis) it will take months or years to declare itself. The germ or seedling grows quicker in one than in the other.

Just as there is is no harvest of wheat unless the grain has been sown in season, or a crop of potato without planting the tuber, so there cannot be any consumption unless the tubercle bacillus has found its suitable soil. The seed in this case is obtained by contact with a careless phthisical patient or, possibly, by partaking of tuberculous food, and soil is prepared by enfeebling the constitution through living in damp, badly ventilated dwellings or indulgence in excesses of any kind.

INFECTIOUS DISEASES.

The number of deaths registered under the group of Zymotic Diseases is as follows :—Measles, 3 ; Scarlet fever, 8 ; Whooping Cough, 9; Diphtheria and Membranous Croup, 6; Enteric Fever, 1 ; Diarrhœa, 3 ; total 30. It amounts to a rate of 1·23 per 1,000 of the population as compared with 1·46 for all, and 1 08 for rural districts of England and Wales.

The following table gives concisely the comparative figures of vital statistics to which I have already referred :—

TABLE IV.

—	Annual rate per 1,000 living.			Infant mortality. Annual death-rate of infants under one year per 1,000 births.
	Births.	Deaths.	Death-rate seven chief epidemic diseases.	
England and Wales	28·4	15·4	1·46	132
76 great towns	29·7	16·3	1·89	144
103 smaller towns... ...	27·4	14·6	1·41	135
Rural England	27·3	14·8	1·08	118
Llandaff and Dinas Powis R.D.C.	28·96	12·02	1·2	98

The following Table gives the number of notifications received and of the deaths registered during each year since I have been your Medical Officer :—

TABLE V.

	Small Pox		Scarlatina		Diphtheria		Membranous Croup		Enteric Fever		Continued Fever		Puerperal Fever		Erysipelas		Whooping Cough		Measles	Influenza
	Notified	Fatal	Notified	Fatal	Notified	Fatal	Notified	Fatal	Notified	Fatal	Notified	Fatal	Notified	Fatal	Notified	Fatal	Notified	Fatal	Fatal	Fatal
1887	7	2	...	...	...	1	...	1	...	4	...	...	...	3	...	1	...	2	...	...
1889	...	...	28	...	2	1	...	1	22	2	...	1	...	4	...	2	...	2	2	...
1888	...	...	...	...	8	6	...	...	33	7	7	...	...	1	...	1	...	11	9	...
*1890	...	...	38	1	4	1	...	...	19	2	2	...	2	2	2	...	15	3	2	2
1891	..	...	318	9	3	1	2	2	31	5	...	1	2	2	6	...	12	2	2	13
1892	...	...	257	10	10	3	4	4	18	3	...	...	2	1	6	1	88	6	...	10
1893	...	...	161	6	37	3	3	3	28	3	3	...	1	1	9	2	50	2	1	10
1894	...	...	44	...	29	3	3	2	28	6	...	...	...	...	6	..	203	14	2	4
†1895	...	...	88	1	15	2	3	2	19	4	...	...	...	1	8	1	89	4	5	12
1896	...	...	98	2	25	5	2	3	15	5	...	...	...	1	6	...	274	19	3	3
1897	...	...	45	1	27	7	2	4	7	...	...	...	...	3	6	...	49	1	8	...
1898	...	...	28	...	42	2	...	...	17	3	...	...	3	...	11	...	80	...	1	...
1899	...	...	43	...	47	2	1	...	10	2	...	...	...	...	11	1	201	10	..	...
1900	...	...	86	...	112	19	1	1	6	1	...	...	...	...	7	...	112	8	...	7
1901	...	...	110	2	41	5	...	1	9	3	...	...	...	...	9	1	31	1	...	3
1902	...	...	238	8	77	11	...	...	16	1	...	...	1	...	13	...	65	7	5	...
1903	6	0	174	8	65	6	2	1	5	1	4	0	0	0	17	0	212	9	3	1

*The Infectious Diseases (Notification) Act, 1889, with Whooping Cough included, came into operation on 1st April, 1890. Fifteen cases were notified that year before it came into force. Diarrhœa was a notifiable disease during 34 days of 1894.

†The District is not exactly of the same area and population since the beginning of 1895, when the parishes of Rumney and St. Mellons, with a population of 1,190 persons, were transferred to the St. Mellons Rural District Council, and the parishes of Llanvedw and Rhydygwern (in the County of Glamorgan), with a census population of 550, became a portion of your District.

SMALL-POX.

Notified, 6; all recovered.

Your District had been exempt from this disease since 1887, but on the morning of the 17th March, in response to a telephonic message from the medical attendant, I visited Birch-Grove (Whitchurch), where I saw J. E., aged 36 years, who had been for five weeks a patient in the Hamadryad Hospital Ship, Cardiff Docks, suffering from an accident. He returned home on 5th March. On 27th February a patient from the same ward was removed to the sanatorium with small-pox. On March 12th J. E., though not feeling indisposed, developed about half-a-dozen pustular spots on the limbs and forehead. The patient had three good scars of infant vaccination which may have modified the disease. Although a doubtful case, I deemed it advisable, inasmuch as he was a possible contact, for him to be isolated in the house until all danger was past. Dr. Shiach had very wisely re-vaccinated already the wife and child of the patient, and I persuaded a neighbouring household, which had been in contact with him, to be likewise protected. The house was afterwards disinfected by your Inspector. As the patient and his friends expressed doubt as to so mild a case being small-pox, I suggested a test—that he should be re-vaccinated. This was done, but it had not the least effect, whereas in all the others it took all right.

On March 18th I was asked to see Mrs. S. D., aged 33 years, 49, Herbert Street, Maindy (Llandaff Parish). She was taken ill on the 12th March, and was suffering from a severe attack of small-pox. It was said that she had been vaccinated in infancy, but the scars were not visible. This woman had two and three weeks previously been nursing an unvaccinated infant in Spencer Street, Cardiff, who was thought to have chicken-pox, but there were three cases of small-pox in this house subsequently. I persuaded the woman's husband and sister, who were the only unprotected persons in the house, to be re-vaccinated, and called on Mr. Harris, the Clerk of the Guardians. He at once communicated with the Public Vaccinator, who did the operation the same day. But, unfortunately, the husband had been visiting the infected house in Cathays, and he developed an attack of the disease five days later. The re-vaccination was done too late to ward off the attack altogether, but it appeared to have somewhat modified it. The neighbours refused to be re-vaccinated, chiefly from fear of being disabled from work thereby. It should be in the power of Sanitary Authorities to compensate a workman who may be indisposed for a day or two after vaccination. If the arm were at all inflamed it would be inadvisable for him to work at the time. The infected household were forbidden to go outside the door

except into the garden at the back. Your Inspector visited the house daily to procure provisions or to go a message for them. No money or other article went out of the house. I was hopeful that there would be no spread of the infection from the cases at Maindy. The only fear I had was about Mrs. W., a woman living next door, who had been in the infected house on the day on which the disease was declared to be small-pox. I used all my persuasive powers to induce this woman to be re-vaccinated, but she refused. Within the fourteen days she fell ill with a severe attack of the disease. All the inmates of her house were at once re-vaccinated and escaped. The two infected houses at Maindy were afterwards disinfected by your Inspector, and the village remained free from infection.

On April 18th I was notified that J. B., aged 28 years, living in Whitchurch Road (Llandaff Parish) just outside the borough boundary, had small-pox. He had contracted the disease from a fellow workman, who had had a modified attack, which was not recognised, and who had returned to work after three or four days' rest. I communicated with Dr. Walford, who was able to trace the case.

J. B. took ill on April 11th, and did not leave his house after that. The attack was of a very mild type, as he was almost completely protected by three good scars of infant vaccination.

His wife was the only person in the house, and she was re-vaccinated on the 18th April, a week from the time her husband sickened. This was too late to completely check the attack of small-pox, but it was of a very mild, modified type. I engaged for them the nurse who attended the first case at Maindy. I followed the same procedure as at Maindy, viz., not permitted anyone to go out. Your Inspector was there almost daily to procure food and other necessaries at your credit. In this way no money or other article went out of the house. I had every reason to believe that the patients and their attendants faithfully complied with my instructions.

This was the end of the outbreak in your district. It originated from three separate centres of infection in Cardiff. Your Chairman directed me to take every possible precaution. I applied to have the patients isolated at the Borough Sanatorium at your expense, but it was refused. I had also been promised an isolated cottage in case of need, but the owner now withdrew that offer. Therefore, as already stated, from the time that the disease was notified the patients were strictly isolated in their own homes ; a nurse was provided where necessary ; provisions were supplied ; and every member of the household was forbidden to go out on the public highway. These restrictions were faithfully complied with, and

although it caused me considerable anxiety at the time, the procedure proved in every way as successful as if the patient had been removed to hospital.

DIPHTHERIA.

Notified, 65; fatal, 6.

The number of cases notified was 12 less and the deaths five less than in the previous year. The case mortality was 9·2 per centum, as compared with 14·2 in 1902. The diphtheria death rate was ·24 per 1,000 of the living. The disease was distributed over nine parishes, but the majority of the cases were, as usual, in the populous parishes of Llandaff and Whitchurch—there being 24 in the former and 15 in the latter. In January three patients at a Lavernock cottage were infected from a child who went there for a change of air, having suffered from severe diphtheria in Cardiff about a month previously. It shows how retentive the infection often is in such cases, as in this instance all reasonable precaution had been taken, and it explains how fresh cases at times appear to originate unaccountably. There were also five cases at this time on Cardiff Road, Llanishen, some of mild type and infected one from the other. Two young children at Coedygoras Cottage, Llanedarne, were probably infected from the last cases, and through delay in sending for medical assistance and the use of anti-diphtheric serum, both died. There were three cases at Maindy (Llandaff Parish) in March, one of whom died. The disease was spread through visiting one another's houses. These visits of sympathy are the usual and a very frequent cause of disseminating infection among the poorer classes, while better educated people often go to the opposite extreme and in their fear will not traverse a road in which there is an infected house if they can avoid it, although there is no danger in doing so.

When in May last I inquired into a notified case at Windsor Terrace, Ely, I discovered six other children suffering from the disease in a mild form, affecting the nostrils principally, and who observed no precautions. It was regarded very lightly till one of them died. But there was only one neighbouring child affected from this source. During the summer months there were isolated cases in the parishes of Llandaff, Llanishen, and Whitchurch. They were mild in character, and swabs from the throats of those at Llandaff Yard failed to give cultivations of the diphtheria bacillus. As scarlet fever subsequently developed in some of the houses, it is possible that the others were cases of this disease in which the rash was more or less absent and the throat symptoms predominated. There were three cases at St. Fagans in October from an imported source. In the latter part of the year there were

six cases in five houses in Rudry parish, which appeared to have spread by personal contact. In the months of November and December Whitchurch supplied 13 cases. All, with one exception, recovered, a result which was doubtless due to the early use of anti-diphtheric serum by the medical attendant. I visited the day schools and examined some of the children to try and elicit a possible source of the infection, but I was not successful in finding one.

Only two patients were treated in hospital, as either the small ward was occupied at the time when the parents would consent to removal, or the children had not had scarlet fever.

SCARLET FEVER.

Notified, 176; fatal, 8.

The case mortality was 4·5 per cent., and the death rate ·33 per thousand living. There were 64 fewer cases notified than in the year 1902. Twelve parishes were invaded. Nearly one-half of the cases were in Llandaff Parish, viz., 85, while 49 were in Whitchurch. The number notified each month was as follows:—January, 15; February, 23; March, 20; April, 12; May, 13; June, 9; July, 26; August, 14; September, 12; October, 16; November, 7; and December, 7.

For the distribution of these cases I beg to refer you to the appended Table IX. Of those (85) in Llandaff Parish, 46 were at Llandaff Yard, and 26 at Maindy; 20 of the former and 8 of the latter were removed to your hospital for treatment. There were always cases at Llandaff until near the end of the year, when the Infant Departments of the schools were closed on account of whooping-cough. The outbreak of scarlet fever then died out completely, showing that school attendance had something to do with spreading the infection.

Of the total number notified in the district, 65 patients, or 37 per cent., were isolated in your hospital. This number would have been larger had there been greater accommodation, as on several occasions patients had to be refused or their admission postponed.

ENTERIC FEVER.

Notified, 9; fatal, 1.

Five were notified as enteric or typhoid fever, and four as continued fever. Two patients were treated at your hospital. The case mortality was 11·1 per cent., and the death-rate from enteric fever was ·041 per 1,000.

The case at Leckwith and that at the Malster's Row, Whitchurch, were of mild type, both convalescing after a week's illness. That at Ely was caused by eating infected mussels, and that on Garth Hill, Pentyrch, contracted the disease outside your dirtrict. In no instance was there a serious sanitary defect found.

Dr. Jenkins, Medical Officer to the Rhondda Urban District Council drew my attention to an outbreak of typhoid fever in his district, "with which the milk from Tydu Farm (St. Fagans) was suspected to have a casual connection." The supply was at once stopped, but the Rhondda outbreak continued in a less degree for some weeks afterwards. It was found, however, that the milk and the water from the well of this farm were both contaminated with the colon bacillus, showing that there had been some sewage pollution. There has been no case of typhoid in this parish during the year.

ERYSIPELAS.

Notified, 17; fatal, 0.—Seven were males and ten females. In most there was a history of a previous injury and dirt. It may be said in connection with a recent case at Llandaff Yard that the woman's son subsequently contracted scarlet fever with malignant erysipelatous sore throat, from which he ultimately died. The house was rather damp, but not grossly insanitary.

WHOOPING-COUGH.

Notified, 212; fatal. 9.

The case mortality was 4·2 per cent., and the death rate equal to ·37 per 1,000. The disease is very fatal among young children; it is said that of all the deaths from whooping-cough in this country over 40 per cent. occur in the first year of life, nearly 75 per cent. under two years of age, and 96 per cent. under five years As a matter of fact, over 88 per cent. of the deaths from whooping-cough were infants under one year, and all the fatal cases were under two years. It shows how imp ɔrtant it is to ward off the attack as long as possible. Every additional year greatly increases the chance of recovery.

The disease was prevalent in the eastern parishes throughout the early months of the year; there were, no doubt, more cases than were notified. It steadily spread westwards, and assumed epidemic proportions in Whitchurch Parish towards the end of August, reaching Llandaff Yard in October. As it seemed to be spread by contact in the Day Schools, I advised the closure of the Infant's Department of the Llandaff Yard and Whitchurch Parish Schools in the beginning of November. The result was immediate, and the epidemic soon ceased.

Whooping-cough has been a notifiable disease in your district since April 1st, 1890. There were more cases notified last year than at all except 1896. Several authorities, who at different times included whooping-cough among the diseases to be notified, have at a later period revoked their resolution on account of the expense entailed and the doubtful benefits which accrued. It is argued that unless there is hospital accommodation to offer the patients, very little good can be done. The cost in fees to your Council last year was £26 10s., which is considerably above the average. Are there commensurate benefits? That will depend on the value attached by the parents to the recommendations issued with a view of preventing complications and exposure. If the attacks could be postponed by such care, or a death averted, the expenditure would be justified.

MEASLES.

Fatal, 3.—This disease was prevalent in several parishes, but we only heard of it when it seriously interfered with the school attendance. Only two children put in appearance at St. Nicholas School on January 28th, so it was closed for three weeks.

PUERPERAL FEVER.

There was again no case of this disease, showing that not only the medical practitioners, but the midwives, exercise intelligence and care in their work.

ISOLATION HOSPITAL.

Temporary Hospital.—With the exception of a lull at the end of August and in December, this building has been full or nearly so all through the year. Although there are only nine beds we have had as many as fourteen patients in residence at one time. But there was no overcrowding as cots were substituted for the beds, two children under ten being reckoned as equal to one adult. The following were the admissions :—

		Scarlet fever.	Enteric fever.	Diphtheria.
January	...	11	...	...
February	...	7	...	...
March	...	3	...	...
April	...	6	...	...
May	...	8	...	...
June	...	7	...	...
July	...	7	...	...
August	...	1	...	...

		Scarlet fever.	Enteric fever.	Diphtheria.
September	...	5	...	2
October	...	6	1	...
November	...	3	...	...
December	...	2	1	...

Total 70, of whom one was from the Penarth Urban District.

Eighty were discharged as cured; one died.

The latter was a young man from Llandaff Yard, who died two days after admission from phlegmonous sore throat and diarrhœa. It is noteworthy that his mother was ill at home with erysipelas.

There were only three patients in hospital on 31st December last, as compared with fourteen on the corresponding day in the previous year.

The administration by Miss Evans and her staff gave every satisfaction.

Permanent Hospital.—The Committee visited several likely sites during the year, but there is always a great deal of prejudice against it. Lord Tredegar declined to grant a piece of land at Ffynon-Wen, Whitchurch, on which to build a permanent hospital. His Lordship was approached as to a site at Tonyrywen, and this he also declined to sell. But he subsequently acquiesced in that at Tir Pwdr's, Whitchurch Parish, the purchase price to be fixed by Mr. W. G. Rees, a sub-agent. This gentleman, owing to illness, has not yet been able to give his decision. This spot is convenient and accessible to the more populous parts of your district, and can be drained, and provided with water. As its name implies (Tir Pwdr's, rotten land) the land must have originally been of poor quality, but, probably owing to the adjacent railway "cutting," it appears, from the trial hole made, to be now quite dry.

Small-Pox Hospital.—The suggested arrangements for a conjoint hospital between yourselves, Penarth and Barry Urban District Councils fell through, on account of the one-sided terms offered by the latter authority. The Penarth Council subsequently bought a piece of land in your Lavernock Parish, and set up a temporary corrugated iron building which they had occasion to occupy shortly afterwards. Representatives of the Penarth Urban Council had conferences with yours, when the following terms were mutually agreed upon for the reception of your patients:—A payment by the Rural Council of £12 12s. per annum in respect of the structural expenses of the hospital; £7 7s. per week for the first case from the Rural District if it be the only case in the hospital, and £3 3s. per

week per case if there be other cases there. It transpired afterwards that the Local Government Board had declined to sanction a loan for the purchase of the site, so that further consideration of the case will be required.

WATER SUPPLY.

The numerous public pumps and wells in the district have received careful and constant attention from your officers, and a considerable amount has been spent in renewals and repairs, the details of which have appeared from time to time in the monthly reports.

About £120 was spent in Radyr Parish in extension of the mains at Morganstown and Windsor Road. The Barry Urban Council have, on being subsidised by the local landowners, extended their mains through Porthkerry to the village of Rhoose and for some distance into Penmark Parish. Water has always been scarce here owing to its being so near the cliffs. The same Council, in pursuance of their powers have taken their mains westward to Sully.

In Lavernock parish water from your mains has been laid on to the Penarth Small-pox Hospital.

The Pentyrch supply has received the consideration of the Committee, and the following improvements were effected :—The reservoir was refenced and the leakages in the well were repaired. A meter was fixed on the intake to estimate the supply available. As there appeared to be great waste going on, your Surveyor was authorised to have the main pipes examined. Nineteen extensive leakages were found and stopped. The water in the reservoir began to rise immediately, and there is no further occasion to divert the supply in the branches of the water main, as had hitherto been the custom. Last season was very wet, and the supply was sufficient. I still think it will be necessary to augment the storage in view of dry weather.

Owing to trespass and the possibility of pollution thereby, an unclimbable fence was erected round the water tank supplying Green Row and Board Schools Rhydygwern.

The following are some of the more urgent water improvements which require your attention .—

(a) Waterloo Terrace, Rudry ; 18 houses.

The present supply is from an open surface well which is subject to pollution from surface washings. It is fully 200 yards from the houses. The gravelly soil underlying the peat should provide an abundant supply if a well were sunk into it and properly walled in.

(b) Van Terrace, Van ; 27 houses.

These were built about three and a-half years ago, and an undertaking was then given, as I understand, that water from the Caerphilly mains would be shortly laid on, but the inhabitants have still to depend upon a stand-pipe tap outside the gate of the Rhymney Railway Company's works, and which is more than 200 yards away. The owners should be called upon to provide an adequate supply forthwith.

(c) Wernddu Cottages, Van ; 10 houses.

There is no water except from an open gutter running down through the wood above. It is subject to vegetable pollution. Some tank arrangement like that at New Row, Rhydygwern would answer here.

(d) Porset Row, Van ; 10 houses.

I have in previous reports drawn attention to the poor and inadequate supply to these houses. The chief difficulty is that of expense.

The analyses of the following samples of water were conducted gratuitously at the Cardiff and County Public Health Laboratory by Dr. W. G. Savage and Mr. J. H. Sugden. This institution is rendering very great service to the county. It would be of still greater service if the authorities could see their way to do all the Public Health work free of charge. It would add only a minute fraction of a penny to the rates. It cannot be expected that medical men, who have club or Poor-law practices, will pay for the examination of the sputum of a possible case of tuberculosis, of a swab in a doubtful case of diphtheria, or of the blood of a supposed typhoid patient. And yet it is of the utmost importance that an early and correct diagnosis should be made, particularly in the case of poor patients.

No. 1 Well, Sully Road, Dinas Powis. "A very hard water "(44 o). Chemical analysis of the sample shows no evidence of "sewage or other organic contamination, but this is distinctly shown "by the more delicate bacteriological examination. (21st January).

No. of organisms developing at 37° C. = 480 per c.c.
" " " 22° C. = 1680 "
Bac. Coli. in ½ c.c.

"Shows distinct evidence of contamination." January 23rd, W. G. Savage).

Notice was served on the owner requiring him to provide a proper supply of wholesome water.

No. 2 Well, Copleston Road, Llandaff. "A hard water "(34·4°), chemical analysis of the sample shows no evidence of "sewage or other organic contamination." (February 20th).

No bacteriological examination made.

No. 3 Well, Taff Terrace, Whitchuroh. "Very similar in "composition to No. 2. Chemical analysis of the sample shows no "evidence of contamination by sewage, animal, or vegetable "matter." (February 21st).

No. 4 Spout near Railway Crossing, St. Fagans. "A fairly "hard water (22·3°). The albuminoid ammonia figure is high for "a pure spring water and the sediment is not satisfactory. "Chemical analysis of the sample, whilst shewing no evidence of "sewage or animal contamination, shows evidence of surface "contamination.

Bacteriological examination showed:—

No. of organisms developing at 37° C. = 58 per c.c.

" " " 20° C. = liquified; a very large number present. Bac. Coli present in ½ c.c.

"Bacteriologically, an unsatisfactory water, and shows evidence "of contamination." (July 9th).

The Spring was thoroughly cleaned out and another sample submitted on September 14th.

(*b*) "Compared with the previous sample received, the "suspended matter is more satisfactory, but the albuminoid "ammonia is still high for a spring water. Chemical analysis "indicates that the sample is not of a high degree of purity for a "spring water, showing evidence of some admixture with surface "water.

Bacteriological examination showed:—

No. of organisms developing at 37° C. = 10 per c.c.

" " " 20° C. = 52 "

Atypical Bac. Coli. in ½ c.c., typical in 2 c.c.

"Unsatisfactory and shows evidence of contamination. Differs "slightly from sample July 3rd, when B. Coli was present in ½ c.c. "and a sample came from a spout on the roadside."

(*c*) The spring was clean out, and sample taken on October 26th, 1903.

"The albuminoid ammonia figure is distinctly high for a spring "water, and the sediment is unsatisfactory. Chemical analysis of "the water shows some evidence of contamination." (Nov. 3rd.)

No. 5 Well (12 ft.), Bryn Farm, Pendoylan. "A water of "considerable hardness (30·4°). Chemical analysis of the sample "shows well-marked evidence of organic contamination rendering "it unfit for drinking purposes."

The well was closed, and owner called on to provide a sufficient supply of wholesome water.

TABLE VI.—WATER ANALYSES.

No. of Sample ..	1	2	3	4	5	6	7
Appearance in 2 ft. tube	Faintly yellowish green. Fairly Clear.	Faintly yellowish green. Clear. ..	Faintly green. Clear. ..	Faintly yellowish Green. Fairly Clear.		Faintly green. Fairly clear..	Yellowish green. Turbid ..
Reaction	Distinctly alkaline	Alkaline ..	Alkaline ..	Alkaline ..	Alkaline ..	Alkaline ..	Alkaline. ..
Total Hardness ..	44·0°	34·4° H. ..	30·4° H. ..	22·3° H. ..	23·8° H. ..	29·6° H. ..	30·4° H. ..
Chlorine	4·5	2·0	2·0	2·2	2·1	1·8	1·75 .. ..
Nitrogen as Nitrates	Large amount..	Considerable amount	Considerable amount	Small traces ..	Small traces ..	Small traces ..	Small traces ..
Saline (or "free") Ammonia ..	·0014	·0012	·0028	·0016	·0025	·0022	·0850 .. ..
Organic (or Albuminoid) Ammonia	·0062	·0054	0046 . ..	·0068	·0078	·0146 .. .	·0132 .. ..
Poisonous Metals ..	None	None	None	None	None	None	Dissolved iron in small amount
Nitrites	None	None	None	None	None	None	None .. ..
Phosphates	None	None	None	None	None	None	None .. ..
Sulphates	Considerable amount	Considerable amount	Considerable amount	Considerable amount.	Fair amount ..	Considerable amount	No appreciable trace .. ..
Microscopic Examination of the Sediment ..	Fair amount. Finely divided vegetable debris. Animalculæ rare. ..	Fair amount. Vegetable tissue and debris. A few Animalculæ.	Small traces vegetable debris. Animalculæ rare.	Considerable amount. Vegetable tissue & debris Animalculæ fairly numerous	Small traces Vegetable debris. Few Animalculæ or lower vegetable organisms found ..	Small amount. Vegetable debris and filaments. Animalculæ numerous. (paramaecia, angiullula). ..	Considerable amount. Chiefly oxide of iron. Animalculæ numerous.

STREET WORKS.

Those mentioned in last year's report have been executed; the following are in contemplation and application has been made to the Local Government Board, to issue an order under Section 4 of the Private Street Works Act, 1892, for the purpose of putting in force the provisions of the Act within the contributory place of Whitchurch as regards:—West Road, Evansfield Road, Hawthorn Road West, Hawthorn Road, Hazelhurst Road (part of), Belle Vue Crescent, Lane behind Tymawr Road from main road, Lane from Evansfield Road to lane behind Tymawr Road, Lane behind Tymawr Road from Radyr Road to Hawthorn Road West, Lane at rear of Radyr Road from Hazelhurst Road.

I found during a recent visit to Waterloo Terrace, Rudry, that the lane beyond the gardens is in deep ruts, making it most difficult for the scavenger to take his cart along to empty the movable receptacles of the earth closets, and a nuisance is caused through spilling of the soil.

SEWERAGE AND DRAINAGE.

The sewers at Llanishen have been extended as far as Shapland's Road, and in Mill Road, to some houses recently erected. A flushing tank has been fixed at the end of the sewer in Andrews Road, Llandaff Yard, so as to effectually scour it.

The Gwaelodygarth Scheme was finished, and the house connections were made in April and May last. It has worked satisfactorily since, but it has not yet been put to the test of drought.

The Tender for the Fairwater Grove Scheme was let in October last to the Public Works Company, 20, Victoria Street, Westminster, for £2,427 10s. 9d., and the work was begun in the last days of the year.

St. Andrews Scheme.—An enquiry was held at Dinas Powis, on March 4th, 1903, by E. A. Sandford Fawcett, Esq., Inspector of the Local Government Board, into your application for sanction to borrow £13,500 to carry out the work. There was no opposition. Formal sanction was given on 11th June. The contract for the construction of sewerage works for Eastbrook and Dinas Powis in the parish of St. Andrews, was let at a Special Meeting of the Council held on 7th October to Mr. Charles Davies, 35, Court Road, Cardiff, for £11,490 3s. 2d. The work was begun at the end of December and is being expeditiously proceeded with.

HOUSING OF THE WORKING CLASSES.

This question is not, as yet, a pressing one in your district, but in the purely agricultural parishes it is gradually forcing itself on your attention. As the old cottages on the farms fall naturally into decay the owners in most cases refuse to repair them, and they are closed as unfit for human habitation. The occupants have to migrate often into the towns. Hence, the slow depopulation of the rural parishes is not from want of employment. What is wanted is some cheap substitute for brick or stone walls whereby labourers' cottages may be built in rural districts at a cost which would be remunerative. In a recent issue of the "Sanitary Record," it was stated that a company called the "Fireproof Plate Wall Co., Ltd." 191, Cheetham Hill Road, Manchester, constructs walls termed "plate walls," with slabs 26 inches by 20 inches by 2½ inches thick. These slabs have both faces perfectly smooth, ends and sides are alternately groved and tongued; no plastering is required. They are fireproof, and practically sound-proof, without crevices for the lodgment of vermin or dust. They are erected with ease and rapidity. They are now used for partitions in hotels and schools by fixing the slabs into skeleton steel framing.

Certain corporations have recently been moulding, with great success, the vitrified slags from the refuse destructors into paving flags and other useful materials. No doubt some of the huge "tips" around ironworks in this country could be so converted if only taken in hand by some enterprising syndicate. It would make cheap, durable and healthy walling for cottages.

SCAVENGING.

A new departure was made by your Council in the Spring of last year by employing your own men and waggons to do the scavenging in the parishes of Llandaff and Whitchurch; the horses were hired. The work has been done much more satisfactorily than formerly. It would be well that the main thoroughfares should be cleared first and as early in the day as possible. There has been considerable difficulty in finding suitable places in which to tip the refuse, as it is now generally known that it will take some years for it to decompose sufficiently, even under favourable circumstances, to render it a healthy building site. From inquiries which I recently made I was informed that there are small Refuse Destructors now being constructed which will deal with a few tons of refuse per day. The cost of working is greatly reduced if the heat generated can be utilised. Further, when conducted properly, there is no nuisance complained of, even when in close proximity to public buildings, such as schools.

INSPECTIONS.

Systematic sanitary surveys of the district were made during the year by the Inspectors and myself, and a great many nuisances were abated by verbal or written notice, or at the instigation of the Sanitary Committee, which meets the week before the Ordinary Monthly Meeting of the Council.

As in former years Infectious Diseases have been much more prevalent in District No. 1, viz. :—435 cases as against 52 in No. 2, so that Inspector Wm. Lewis's time was largely taken up in visiting infected premises, and subsequently, disinfecting the rooms. About 530 such visits were paid by him.

In No. 2 District, Inspector Wm. Morgan had to be constantly supervising the scavengers at Eastbrook and Dinas Powis, and the parish of St. Andrews has again been remarkably free of infectious diseases. When in a few months time the house drains have been connected with the new sewers, I would recommend that Morgan should occasionally assist Lewis in the more populous Northern District.

DISTRICT No. 1.

Inspector Wm. Lewis, Cert. San. Inst. Area 26,586; estimated population 17,595. It is composed of the following parishes:—Lisvane, Llandaff, Llanedarne, Llanillterne, Llanishen, Pentyrch, Radyr, Rudry, Van, Whitchurch, Llanvedw, and Rhydygwern.

The Inspector mentions the large amount of his time which is taken up by cases of infectious disease, disinfection, &c., sometimes having to cover the same ground day after day, and he is thereby prevented from giving the dairies, cowsheds, slaughterhouses and workshops the attention which they should have. At the same time a great many improvements have been effected, and lime-washing is done regularly.

LLANDAFF.

At Ely, Llandaff Yard and Maindy, a number of houses have been improved, back yards paved, water supply put into the houses, trough sinks fixed, the wells filled in, and new drainage provided to several old houses. There are about 30 cesspools in the parish which are emptied by your contractor two or three times a week, when the sewage is either emptied into your sewers or deposited on some out-lying fields. This work is done at night, and very few complaints of neglect or nuisance have been made. Your scavengers remove all refuse three times a week. The difficulty in providing a refuse tip was overcome through the kindness of your Chairman who allowed a convenient site on the Windsor Estate to be so used.

LLANISHEN.

The houses have been connected with sewer extensions already referred to, and the cesspools filled in. The scavenging was done twice a week by the Contractor in a satisfactory manner.

PENTYRCH.

Several houses in Pentyrch village and Penygarn were repaired, and new drainage and privy-closets provided The scavenging of Upper Pentyrch and Gwaelodygarth was efficiently carried out.

RADYR.

A number of nuisances from defective and foul drains were abated from time to time. There was great improvement in the scavenging by the work being done three times a week. You were thereby enabled to abolish the refuse bins. In places where scavenging is not done frequently, the bins are far preferable to ash and refuse heaps, as they prevent the spreading about of the rubbish, although they may be somewhat unsightly.

RUDRY.

The usual improvements in drainage, closet accommodation, have been effected. Scavenging has been done twice a week as recommended in my last report, and is much more satisfactory.

The Waterloo Tin Works do not appear to discharge the waste acid into the river Rumney now, as the arrangements for converting it into copperas are complete. It would still be possible to do so by intention or neglect.

WHITCHURCH.

This parish is developing more rapidly than any other, not excepting Llandaff. Attention has been paid to the older cottages; some have been closed, others repaired, and especial care was taken to provide means of ventilation. The scavenging, as already stated, is now done by your own men, and with great satisfaction and thoroughness. The condition of the new streets near Llandaff station has been complained of. I have referred to the action you are taking under the Private Street Works Act, 1892, to carry out this improvement at an early date.

DISTRICT No 2.

Inspector, Wm. Morgan, Cert. San. Inst. Area 38,883; estimated population, 6,610. It consists of the following parishes: Bonvilstone, Caerau, Lavernock, Leckwith, Llancarvan, Llantrithyd, Llanvythin, Michaelstone-le-Pit, Michaelstone-super-Ely, Pendoylan, Penmark, Peterstone-super-Ely, Porthkerry, St. Andrews, St. Brides-super-Ely, St. Fagans, St. Georges, St. Lythans, St. Nicholas, Sully Welsh St. Donatts, Wenvoe.

With exception of St. Andrews, which has a population now of about 1,800, of which 1,500 are at Dinas Powis, this is a sparsely populated agricultural district. A large amount of the usual routine work has been dealt with by the Sanitary Committee, and the parishes have been maintained in a fairly satisfactory sanitary state. The Inspector's energies were taxed in supervising the emptying of the cesspools at Dinas Powis and Eastbrook, where there was a large amount of rain and bath water to contend with.

FACTORIES AND WORKSHOPS.

Under the Act of 1901, "Every District Council shall keep a register of all Workshops within their district." It may be started by making a copy of the entries in the official register of the District Inspector of Factories, and every person newly occupying a workshop shall notify the fact to His Majesty's Inspector, who will forthwith send it to the District Council. In the case of Factories, *i.e.*, where mechanical power is used, and also certain dangerous trades specified in Part I. of Schedule VI., your duties are limited to seeing that they are provided with sufficient means of escape in case of fire, and you may make bye-laws providing for means of escape from fire in the case of any factory or workshop. Having adopted Part III. of the Public Health Acts Amendment Act, 1890, it is your duty to see that the factories are provided with suitable sanitary conveniences. You have exercised this power for several years, and in no instance has His Majesty's Inspector had occasion to notify that you were in default.

Workshops are premises in which manual labour is exercised by way of trade. The term may include (if mechanical power is not used), bakehouses, quarries, carpet-beating works, &c. laundries (Section 103), and "workplaces." "Workplace" has a wider meaning than workshop and has been interpreted to apply to any place "where work is done permanently or where people assemble together to do work permanently of some kind or other;" that is, as in restaurants, or horsekeepers in stables, and cleaners in stable yards. While the Factory Inspector is responsible for the Sanitary

condition of factories, you are responsible for enforcing it in the case of workshops and workplaces. "Sanitary conditions" include (1) keeping the premises clean and free from effluvia so as not to create a nuisance under Section 91 Public Health Act, 1875; (2) sufficient air space, that is, 250 cubic feet of free air space (or during overtime, 400) for each person employed in the room. A notice must be affixed in the workshop and the *District Council must see that it is constantly exhibited*, specifying the maximum number of persons who may be employed in each room of the workshop; (3) ventilation. This must be such as to render harmless any injurious gases, vapours, dust, or other impurities that may be generated in the course of their work; (4) in every room of a workshop sufficient *means* of ventilation must be provided and sufficient ventilation maintained. (Workshops where men only are employed are excluded from the operation of this requirement; (5) drainage of wet floors (this also does not apply to workshops in which men only are employed).

In addition to the above general regulations, special sanitary regulations for bakehouses are contained in the Act. These require that—

(1) A bakehouse must not contain or communicate directly with a water closet, earth closet, privy or ashpit; a cistern supplying water to a bakehouse must be separate from any cistern supplying water to a water closet; and a sewage pipe or drain must not have any opening in the bakehouse.

(2) All inside walls and ceilings of rooms and all passages and staircases must be limewashed every six months, or coated with three coats of paint or varnish every seven years and washed with hot water and soap every six months.

(3) Places on the same level with a bakehouse and forming part of the same building must not be used as sleeping places unless effectually separated from the bakehouse by a partition from floor to ceiling and provided with an external glazed window 9 square feet, of which 4½ feet must be made to open.

These regulations will in the case of all *retail* bakehouses be enforced by the District Council (Sec. 102); and *wholesale* bakehouses by the Factory Inspector.

The above requirements in respect of factories and workshops, in so far as you are empowered to enforce them, have been complied with during the past year; and I subjoin a summary of the Inspector's reports on the subject.

District No. 1.

		No.	Cleaned and Lime-Washed	Drainage Provided	Closets Provided	Other Repairs
Workshops	Bakehouses	19	18	...	1	3
	Carpenters & Joiners ...	15	...	...	...	1
	Smiths	10	...	...	...	...
	Masons' Workshops ...	3	...	...	...	1
	Boot Repairers ...	6	...	...	...	..
Factories	Laundries	5	4	1	...	...
	Breweries	3	...	...	1	...
	Tin Works	3	...	...	...	1
	Railway Workshops ...	2	...	1	...	...
	Colliery Workshops ...	3	...	...	...	...
	Quarries	6	...	...	1	...
	Brickworks	3	...	...	...	...
	Total ...	78	22	2	3	6

District No. 2.

The following workshops are registered in District No. 2:—

Bootmaker	1
Bakehouses	3
Carpenters	9
Estate Repairing Shop ...	1
General Builder	1
Painter	1
Quarry	1
Saddler	1
Smiths (including two Wheelrights)	9
Wheelwright	1
Total	28

Factories—

Brickworks	3
Builder's Yard	1
Cement Works	1
Corn Mills (Water Power) ...	7
Limeworks	2
Quarries	5
Smithy and Wheelrights ...	1
Total	20

Several visits were made to the different workshops during the year, and improvements were effected in the way of cleansing, &c., as required.

DAIRIES, COWSHEDS, MILKSHOPS, &c.

Regulations as to the lighting, ventilation, cleansing, drainage, and water supply of dairies, cowsheds, and milkshops, and as to precautions against infection, have been in force in your district since October 1st, 1887. Your Inspectors have made regular inspections of these premises, some of which require frequent visits to ensure cleansing of the premises daily. It is found that many cow-keepers are very negligent in this respect and in removing accumulations of manure. Unfortunately, also, the majority of milkmen have very vague ideas of the requirements of their occupation, and how essential it is in their own interests to prevent pollution of the milk. It decomposes readily, and this can be largely prevented with a little intelligent care without the help of *preservatives*. Some of our Continental neighbours are far in advance of this country in this respect. I brought to the notice of the Council early last year the necessity of doing something to ensure greater cleanliness in dealing with the milk supply before it reaches the consumer. The question was referred to the Sanitary Committee.

If anyone places some of the morning's milk in a conical glass, he will usually find shortly afterwards, a deposit forming at the bottom of the glass consisting of hairs and dirt from the udder of the cow, or the hands of the milkman. Milk is a sterile fluid when it leaves the udder of the cow, but when it is delivered to the householder it is teeming with bacteria, often as many as a million to the cubic centimeter, whereas, with ordinary precautions, it is possible to reduce them to 100,000 per c. centimeter. These micro-organisms are mostly of a harmless type, but the precautions necessary to diminish their number will also reduce or abolish altogether the danger of the pathogenic or disease producing germs. The public has a right to demand as pure a supply of milk as is possible to provide in that it is an article of diet which is largely consumed in the raw state, especially by the young and the weakly. This can be acquired by clean vessels, clean hands, clean udders, and clean cows.

Regulations providing for the grooming of cows, for the preliminary washing of the hands of the milkman, and of the udders, for the rapid cooling of the milk, are urgently required. A copy of these, with a short explanatory letter, should be sent to each cow-keeper and milkseller in the district.

SLAUGHTER HOUSES.

The Local Government Board has invested you with Urban powers relating to slaughter houses in all those parishes where the provisions were not already in force. Repeated inspections were made and several owners have been required, or are now under notice, to improve their premises so as to comply with your bye-laws. In some instances the old slaughter houses have been closed by the owners in preference to executing the impossible. The majority of owners whitewash their houses periodically without trouble to the Inspector.

EXPLOSIVES AND PETROLEUM ACT.

About twenty licenses in No. 1 District, and four in No. 2, were granted or renewed. An increasing number of people now store petrol, carbide of calcium, etc , but they give no trouble to your Inspectors beyond necessitating inspections of the premises.

HACKNEY CARRIAGES AND OMNIBUSES.

The following licenses were granted during the year:—vehicles, 16; drivers, 21; conductors, 20. These ply between Llandaff Yard, Llandaff and Cardiff, and between Whitchurch and Cardiff. They are a source of great convenience to the inhabitants. The Cardiff County Council has, I understand, refused to sanction running powers to motor vehicles to ply on these routes.

NEW BUILDINGS.

The following table shows that 226 plans were passed, as compared with 237 and 286 in the two immediately preceding years.

List of Building Plans approved by the Council during the Year 1903.

1903	Houses.	Shops.	Places of Worship.	Schools.	W'rkshops	Other Buildings.
January ...	4	...	...	...	...	1
February ...	18	...	...	...	...	...
March ...	32	1	...	...	...	3
April ...	37	1	...	...	...	...
May ...	13	...	1	...	...	4
June ...	43	2	1	...	...	2
July ...	6	...	...	...	...	...
August ...	14	...	...	...	...	3
September ...	3	...	...	...	...	2
October ...	13	...	...	...	...	3
November ..	9	1	...	...	1	3
December ...	3	...	...	..	...	2
Total ...	195	5	2	...	1	23

No. 1 District.

LIST OF NUISANCES ABATED AND OTHER WORK.

Animals kept so as to be a nuisance	19
Buildings unfit and closed	4
Dilapidated houses repaired	136
Proper drainage provided	57
Overcrowding	15
Choked drains and closets	143
Foul accumulations and deposits	26
Cowsheds and Dairies improved	19
Bakehouses and slaughterhouses improved	7
Wells closed and water taken from mains	3
Foul yards and premises cleansed	28
Foul privies cleansed and repaired	17
Houses disinfected after infectious disease	172
Back yards properly paved	38
Manure pits provided	6
Houses drained to sewer	146
Samples of water taken for analysis	8
Water certificates granted	159
Shutes and down pipes fixed	38
Workshops, &c., cleansed and improved	33
Total	1074
Visits to infected houses	530

District No. 2.

LIST OF NUISANCES ABATED AND OTHER WORK.

Animals kept so as to be a nuisance	16
Bakehouses, &c., cleansed	3
Buildings unfit for human habitation :—Llantrithyd 1, St. Nicholas 2, Leckwith 1, and Peterstone 1 ...	5
Cesspools cleansed	241
Cesspools repaired, &c.	15
Choked and defective drains and closets	60
Cowsheds and dairies improved	16
Dilapidated houses repaired	41
Ditches and water courses cleansed...	7
Drainage provided	21
Earth closets and privies cleansed	88
Earth closets and privies cleansed and repaired ...	49
Earth closets and privies provided	17
Foul accumulations and deposits	38
Foul yards and premises cleansed	32
Guttering and down pipes fixed	16
Houses, &c., disinfected	43
Overcrowding	5
Paving, &c., provided	30
Piggeries, stables cleansed and repaired	14
Proper urinals provided	3
Prosecutions (closure of Beggan Farm House, Leckwith) ...	1
Samples of water taken for analysis	8
Smoke nuisances	1
Water certificates granted	20
Wells cleansed and repaired	9
Total	799
Number of Inspections made	2057
Number of Wells visited	31

I am indebted to Mr. C. H. Priestley, M. Inst. C.E., Waterworks Engineer, Cardiff, for the following summary of the rainfall at different stations in your district during last and previous years, for which I beg here to record my thanks.—

YEARLY RAINFALL.

YEAR.	AT LLANISHEN SECTION.			ELY.	YEAR.
	At Llanishen Reservoir. Elevation 155 feet.	At Lisvane Reservoir. Elevation 150 feet.	At The "Heath" Filters. Elevation 132 feet.	At Ely Pumping Station. Elevation 53 feet.	
1864		28·76		30·66	1864
1865		42·58		39·31	1865
1866		48·15		49·42	1866
1867		36·89		38·28	1867
1868		38·06		41·60	1868
1869		39·98		41·42	1869
1870		34·57		36·26	1870
1871		41·70		40·48	1871
1872		55·03		55·45	1872
1873		37·41		39·76	1873
1874		41·91		43 74	1874
1875		55·90		55·27	1875
1876		48·82		49·89	1876
1877		51·41		50·93	1877
1878		44·30		44·27	1878
1879		45·16		46·94	1879
1880		36·45		44·29	1880
1881		42·40		42·77	1881
1882		61·53		56·73	1882
1883		41·81		43·01	1883
1884		38·34		41·89	1884
1885		43·42		42 79	1885
1886		45 72		50 72	1886
1887		23 29	27 97	31·59	1887
1888	40·46	38·29	40·53	41·74	1888
1889	31·62	28·14	32·77	34·26	1889
1890	28·04	25·64	31·99	32·00	1890
1891	46 24	43·90	48·77	48·23	1891
1892	29·31	26·91	31·30	32·60	1892
1893	33·82	31·65	36·33	36·72	1893
1894	45·00	42 91	45·47	45·85	1894
1895	36·47	33·02	37·87	38·56	1895
1896	35·46	31·38	37·91	39·18	1896
1897	44 78	40·50	46·37	47·57	1897
1898	37·06	33·65	37·60	36·64	1898
1899	35·34	32·10	35·54	37·74	1899
1900	41·52	39·02	42·31	44·79	1900
1901	33·88	30·58	36·41	37·26	1901
1902	35·33	33·85	35·13	35·15	1902
1903					1903
January	5 21	5·00	5·59	5·65	January
February	1·81	1·47	2·33	2·51	February
March	4·99	4·70	5 36	5·75	March
April	2 14	2·10	2·32	2·32	April
May	5·13	4·84	4·09	3·02	May
June	2·37	2·14	2·62	2·09	June
July	4·19	3·92	4·06	4·58	July
August	5·61	5·23	5·76	6·00	August
September	3·86	3·61	4·09	4·34	September
October	11·05	10·11	11·31	11·37	October
November	2 24	2·10	2·29	2·36	November
December	3·82	3·66	4·25	4·75	December
Totals 1903	52·42	48·88	54·07	54·74	Totals 1903.
Mean of Years	37·92	39·60	38·73	42·51	Mean of Years

I am, Gentlemen, your obedient servant,

R. PRICHARD.

TABLE VIII.—LLANDAFF AND DINAS POWIS RURAL DISTRICT COUNCIL.
VITAL STATISTICS OF PARISHES IN 1903 AND PREVIOUS YEARS.

Names of Parishes	BONVILSTONE				CAERAU				LAVERNOCK				LECKWITH.				LISVANE				LLANCARVAN.				LLANDAFF				LLANEDARNE				LLANILLTERNE			
YEAR.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered	Deaths at all ages	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages	Deaths under 1 year.	Population estimated to middle of each year	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year,	Births registered.	Deaths at all ages.	Deaths under 1 year.
	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d
1893...	219	2	1	...	190	13	2	...	78	3	1	...	122	5	2	...	250	8	3	2	545	12	6	2	4558	141	67	16	290	2	1	...	97	1	3	1
1894...	219	3	2	...	200	12	3	2	80	3	2	...	125	4	5	...	253	6	2	...	540	8	8	...	4643	114	66	14	290	6	2	1	97	3	...	...
1895 ..	219	3	3	...	200	12	2	1	84	3	1	...	125	4	1	...	253	6	2	...	537	8	12	...	4808	114	79	15	290	6	6	1	100	3	...	...
1896...	219	5	3	...	210	11	8	4	85	...	...	...	125	5	1	...	255	7	...	...	530	6	2	...	4999	...	81	19	290	6	5	0	100	...	2	...
1897...	219	6	6	1	210	17	2	2	90	...	4	3	125	...	...	...	255	9	2	1	530	11	8	1	5122	137	72	14	290	6	7	1	100	5	2	...
1898...	215	11	6	...	215	17	5	3	95	4	...	...	130	5	2	1	257	6	1	...	525	24	7	1	5288	173	57	13	290	4	4	1	105	4	...	...
1899...	210	6	6	...	228	9	4	1	100	2	...	...	133	3	...	...	257	5	1	...	520	14	9	2	5586	149	66	15	290	8	...	...	105	3	2	...
1900...	205	7	5	1	228	7	3	...	105	4	2	1	136	5	...	...	257	4	5	1	500	11	6	1	5695	172	73	28	290	6	2	...	105	1	1	...
1901...	188	9	3	...	229	8	..	...	118	5	...	...	136	4	1	...	260	4	2	1	463	11	5	1	5894	171	80	19	291	2	2	...	110	7	1	...
1902...	188	5	3	3	229	6	1	...	120	4	1	1	140	1	...	...	270	4	3	1	433	15	4	2	6090	186	57	23	291	7	5	...	110	3	...	...
1903 ..	186	8	5	1	227	6	1	1	120	3	1	0	140	2	2	...	276	5	4	1	430	11	4	1	6208	176	86	23	291	4	4	1	110	5	3	1

Names of Parishes	LLANISHEN.				LLANTRITHYD				LLANVEDW				LLANVYTHIN				MICHAELSTONE-LE-PIT				MICHAELSTONE-SUPER-ELY				PENDOYLAN				PENMARK				PENTYRCH			
1893...	720	19	11	3	150	2	...	...	...	...	...	...	29	...	...	...	100	...	...	...	54	...	2	...	350	5	3	...	545	14	9	1	1754	56	28	9
1894...	725	27	14	5	145	4	2	...	275	7	3	1	28	...	...	...	98	2	...	...	54	...	...	...	350	9	8	...	540	16	18	2	1775	52	28	7
1895...	900	27	11	2	140	4	5	...	275	...	...	...	28	2	1	...	98	..	2	...	56	9	..	...	348	16	3	...	540	12	14	3	1796	41	14	11
1896...	925	...	10	3	135	...	2	1	275	...	1	...	27	...	...	...	96	...	...	...	58	...	...	...	347	...	7	...	535	...	2	1	1837	...	34	5
1897 ..	950	25	16	2	130	4	3	1	270	4	2	...	27	...	...	...	96	...	...	...	59	1	...	...	346	12	...	...	530	19	12	2	1868	58	37	9
1898...	1000	21	17	3	125	4	1	1	270	5	1	...	26	...	...	...	94	...	...	...	60	...	...	...	345	9	6	2	525	14	6	2	1890	68	38	12
1899...	1050	21	10	4	120	4	2	...	265	...	4	1	25	...	...	...	94	...	...	...	62	2	1	...	344	12	2	...	520	19	10	2	1921	64	34	9
1900...	1150	20	15	4	120	3	1	1	265	6	4	...	24	...	...	...	90	...	2	1	63	2	1	...	344	14	10	2	510	26	4	2	1942	54	57	10
1901...	1212	29	16	1	115	...	2	...	260	4	4	...	22	...	...	...	87	...	1	...	65	...	1	...	343	4	6	...	500	13	4	...	1955	64	27	9
1902...	1227	25	11	...	110	6	1	...	260	2	...	...	22	...	...	...	87	1	1	...	65	...	3	2	343	11	3	2	490	12	7	...	1964	74	26	2
1903...	1237	34	9	4	110	3	...	...	260	6	4	...	22	...	...	...	87	3	...	.	65	...	...	...	343	11	...	...	500	16	8	...	1964	71	35	10

Names of Parishes.	PETERSTONE-SUPER-ELY				PORTHKERRY				RADYR				RHYDYGWERN				RUDRY				ST. ANDREWS				ST. BRIDES-SUPER-ELY				ST. FAGANS				ST. GEORGES			
1893...	290	10	3	...	143	5	2	1	635	25	16	7	...	...	..	...	429	20	12	1	1138	45	17	5	95	5	1	...	492	17	8	...	263	7	4	1
1894 ..	295	11	3	...	140	2	1	1	645	27	19	7	...	...	...	...	439	14	9	2	1144	36	17	4	96	6	2	...	493	21	16	5	266	15	4	1
1895..	299	2	5	2	137	2	2	1	657	14	6	2	274	36	2	1	449	6	5	2	1156	21	13	3	97	15	3	1	494	3	5	...	269	11	9	...
1896...	304	...	2	...	135	...	2	1	675	...	10	3	270	..	3	...	459	...	11	2	1184	...	19	9	98	...	2	...	495	...	7	3	273	...	2	...
1897 ..	309	6	...	...	133	2	3	...	700	23	9	2	268	8	8	1	469	12	2	...	1220	48	19	4	99	6	2	...	496	17	3	...	275	10	1	...
1898...	315	13	8	2	131	5	3	...	750	23	8	3	268	7	5	1	479	18	16	2	1250	46	19	4	100	5	2	...	497	6	5	...	277	5	5	...
1899 ..	320	15	5	3	130	3	2	1	775	20	7	2	266	1	1	...	498	10	8	..	1300	41	14	5	102	3	1	1	499	7	5	...	278	7	4	1
1900...	323	13	5	...	129	6	...	...	790	30	8	1	264	6	4	2	539	18	13	4	1350	40	23	5	104	4	2	...	502	18	6	2	279	5	10	1
1901...	327	11	4	...	127	2	1	...	815	24	15	2	262	6	4	1	571	14	9	1	1632	33	22	5	107	5	2	...	507	10	5	1	280	7	1	...
1902...	327	13	7	2	127	4	6	1	830	26	9	2	260	2	3	...	576	21	9	1	1651	50	17	5	107	2	2	2	507	14	5	...	280	10	7	3
1903...	337	9	6	...	127	3	4	...	850	27	8	2	257	6	1	...	576	17	6	1	1741	34	17	1	110	4	...	...	509	10	9	...	280	9	2	...

Names of Parishes.	ST. LYTHANS				ST. NICHOLAS				SULLY				VAN				WELSH ST. DONATTS				WENVOE				WHITCHURCH			
1893...	109	3	...	...	318	10	4	...	155	5	2	...	243	11	5	1	185	3	1	1	450	8	7	...	3545	122	62	17
1894 ..	106	3	...	...	320	11	3	1	157	6	1	...	241	9	6	...	184	5	2	...	455	20	5	...	3649	127	59	23
1895...	103	6	1	...	322	9	7	2	159	5	...	...	238	20	7	2	183	7	6	...	460	12	8	1	3756	127	63	22
1896...	100	...	...	...	324	...	1	1	163	...	2	...	235	...	2	1	182	...	3	...	465	...	11	...	3858	...	48	18
1897...	97	2	...	...	326	7	2	...	166	8	3	1	232	9	2	2	181	3	4	1	470	16	6	1	3982	134	45	16
1898...	94	1	..	...	328	3	1	...	168	3	4	1	230	7	2	1	179	3	4	...	474	21	9	...	4097	156	57	17
1899...	93	2	1	1	329	10	8	2	170	7	5	2	228	8	2	1	177	7	5	...	479	11	3	1	4217	154	75	28
1900...	90	1	1	...	330	5	2	...	172	4	...	...	225	6	2	...	176	3	2	...	484	13	8	2	4542	146	58	10
1901...	85	3	1	...	332	6	3	...	175	3	3	...	222	9	3	1	174	3	2	...	489	10	4	1	4880	164	66	18
1902 ..	80	2	...	...	332	6	3	..	175	2	1	...	220	9	5	1	174	4	4	2	489	14	5	2	5059	186	86	18
1903...	80	5	0	0	340	8	4	1	175	6	1	0	322	13	2	2	172	2	1	0	509	13	2	1	5244	171	62	18

TABLE IX.—CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1903.

Notifiable Disease	Cases Notified in Whole District.							Total Cases Notified in Each Locality																								No. of Cases removed to Hospital from each Locality.							
	At all Ages	Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards	Caerau	Lavernock	Leckwith	Lisvane	Llandaff	Llanedarne	Llanishen	Pendoylan	Penmark	Pentyrch	Peterstone-super-Ely	Porthkerry	Radyr	Rhydygwern	Rudry	St. Andrews	St. Fagans	St. Georges	St. Nicholas	Sully	Van	Welsh St. Donatts	Whitchurch.	Llandaff	Llanishen	Pendoylan	Penmark	Peterstone	Radyr	St. Andrews	Whitchurch
Small Pox ...	6	...	..	...	...	6	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Cholera ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria ...	65	...	13	34	8	10	...	2	3	...	...	24	2	6	...	...	4	...	...	...	...	6	...	3	...	...	...	...	...	15	2	...	...	...	...	...	...	...	...
Membranous Croup	2	...	...	2	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas ...	17	...	...	2	...	13	2	...	...	...	...	8	...	...	1	...	...	1	...	1	1	...	2	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever ...	176	4	50	91	22	9	...	...	...	...	2	85	1	9	8	1	...	8	1	5	...	...	6	...	...	...	...	..	1	49	34	1	2	1	7	3	4	13
Typhus Fever ...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever ...	5	...	...	2	...	3	...	...	...	1	...	1	...	...	...	...	1	...	...	..	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	1	...
Relapsing Fever ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever ...	4	...	1	1	...	2	.	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	...	...	1	...	...	...	..	...	...	...	...	...	..	...	...	...	...
Puerperal Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough .	212	37	104	64	7	...	...	...	...	...	1	35	7	12	1	...	...	...	...	...	...	5	7	...	...	...	...	3	...	141	...	...	...	...	...	...	...	...	...
Totals ...	487	41	168	196	37	43	2	2	3	1	4	158	10	27	12	1	6	9	1	6	2	11	15	4	1	1	1	3	1	208	37	1	2	1	7	3	4	14

TABLE X.—CAUSES OF, AND AGES AT, DEATH DURING THE YEAR 1903.

Cause of Death	Deaths in or belonging to whole District at subjoined Ages							Deaths in or belonging to Localities (at all ages)																																	
	All ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards	Bonvilstone	Caerau	Lavernock	Leckwith	Lisvane	Llancarvan	Llandaff	Llanedarne	Llanilltern	Llanishen	Llantrithyd	Llanvedw	Llanvythin	Michaelstone-le-Pit	Michaelstone-super-Ely	Pendoylan	Penmark	Pentyrch	Peterstone-super-Ely	Porthkerry	Radyr	Rhydygwern	Rudry	St. Andrews	St. Brides-super-Ely	St. Fagans	St. Georges	St. Lythans	St. Nicholas	Sully	Van	Welsh St. Donatts	Wenvoe	Whitchurch
Small Pox ...	0	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles ...	3	1	2	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	..	...	...	...	...	...	...	...
Scarlet Fever ...	8	1	5	1	...	1	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough ...	9	8	1	...	...	...	...	...	...	...	...	...	1	2	1	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	1	...	...	4
Diphtheria and membranous croup	6	1	3	2	...	...	...	...	...	...	...	...	...	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Croup ...	1	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Fever: Typhus ..	..	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fever: Enteric ...	1	...	...	1	...	...	...	...		...	...	...	...	...	...	...	..	...	...	...	...	...	...		...	...	...	..	1	...	...	...	...	...	...	...	...	...	...	...	...
Fever: Other continued ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic influenza ...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
Plague ...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	..	...	...	..	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
Diarrhœa ...	3	2	...	...	...	1	...	...	...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteritis ...	4	1	3	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal fever ...	0	...	...	...	...	...	.	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas ...	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other septic diseases ...	3	...	1	...	..	2	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	1
Phthisis ...	14	...	...	...	6	8	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	2	1	...	1	...	...	1	...	1	...	...	...	...	...	...	...	...	3
Other tubercular diseases ...	8	1	1	2	3	1	...	...	...	...	...	..	...	3	...	...	...	...	...	...	...	...	...	1	..	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	2
Cancer, malignant disease ..	12	...	...	...	.	8	4	2	...	...	...	...	...	2	...	...	..	...	1	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	..	...	...	3
Bronchitis ...	23	8	3	...	...	5	7	...	...	..	...	...	2	11	...	...	...	...	..	...	...	...	...	1	...	...	1	...	...	1	...	...	...	...	1	.	...	...	...	...	6
Pneumonia ...	10	3	1	...	...	2	4	...	...	...	...	...	1	1	...	...	...	...	..	...	...	...	...	.	4	...	...	1	...	...	...	...	1	...	...	...	...	...	1	...	1
Pleurisy ...	0	...	...	...	...	.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other diseases of Respiratory organs	3	1	...	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Alcoholism—Cirrhosis of liver ...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Venereal diseases ...	1	...	1	...	...	...	...	...	...	...	...	...	...	..	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	1
Premature birth ...	20	20	...	...	..	...	...	1	...	...	...	...	...	6	...	1	1	...	...	...	...	..	...	...	6	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	4
Diseases and accidents of parturition	0	...	...	...	...	...	...	...	...	.	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Heart diseases ...	34	..	0	3	2	19	10	...	...	...	1	...	...	7	...	...	2	...	2	...	...	...	...	..	6	1	...	1	...	1	3	...	1	1	...	...	...	...	...	...	8
Accidents ...	21	1	5	5	1	4	5	...	...	...	1	...	...	5	...	...	...	...	...	...	...	...	2	2	1	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	7
Suicides ...	4	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	..	...	...	...	1	...	...	1	...	...	...	...	...	1
All other causes ...	102	21	7	2	3	23	46	2	1	1	...	1	...	26	2	2	5	...	1	...	...	...	...	4	10	2	3	3	...	3	7	...	5	1	...	2	1	1	...	1	18
All causes ...	292	69	33	19	15	80	76	5	1	1	2	4	4	86	4	3	9	0	4	0	0	0	0	8	35	6	4	8	1	6	18	0	9	2	0	4	1	2	1	2	62